

AMENDMENTS TO THE SPECIFICATION

Amend the paragraph at page 1, lines 11-22, (aka [0004]) as follows:

It is is known that a homogeneous catalyst comprising a combination of a transition metal compound containing a metal of group 4 of the periodic table and having a cyclopentadienyl derivative as a ligand with an aluminoxane exhibits a high activity for polymerization of olefins and is used therefor (for example, Japanese Unexamined Patent Publication [hereinafter abbreviated to "JP-A"] No. S58-19309). Catalysts comprising an organometallic complex having a cyclopentadienyl structure as a non-ligand, which include the above-mentioned homogeneous transition metal catalyst, are known as giving a polyolefin having a narrow molecular weight distribution and having a uniform distribution in composition over the polymer.

Amend the paragraph from page 1, line 23 to page 2, line 34 (aka [0005]) as follows:

In recent years, to provide an improved homogeneous catalyst for polymerization of olefins, extensive researches have been made on homogeneous catalysts comprising an organometallic complex having a ligand other than that having a cyclopentadienyl structure, i.e., a ligand containing a heteroatom. For example, as for ~~eatalysts~~ catalysts for polymerization of olefins comprising an organometallic complex of a transition metal compound with a ligand containing a nitrogen atom, JP-A H8-176217 and JP-A H8-245713 disclose a catalyst for polymerization of an olefin comprising a titanium amide compound containing a titanium metal with a dialkylamine as a ligand. JP-A H10-298216 discloses a catalyst for polymerization of an olefin comprising a transition metal amide compound with a crosslinkable aromatic amine compound as a ligand.

Amend the paragraph at page 2, lines 5-21, (aka [0006]) as follows:

Catalysts for polymerization of olefins comprising an organometallic complex with a ligand comprising a nitrogen atom have also been widely studied from a scientific point of view. Living polymerization of 1-hexene using a catalyst system comprising a diamide complex represented by the formula: $[\text{ArN}(\text{CH}_2)_3\text{NAr}]\text{TiMe}_2$, and $\text{B}(\text{C}_6\text{F}_5)_3$ is described in D. H. McConville et al, J. Am. Chem. Soc., vol. 118, p.10008 (1996). Living polymerization of 1-hexene using a catalyst system comprising a diamido complex with a tridentate ligand, represented by the formula: $[(\text{t-BuN-ortho-C}_6\text{H}_4)_2\text{O}]\text{ZrMe}_2$ and $\text{B}(\text{C}_6\text{F}_5)_3$, is described in R. R. Schläeek Schrock et al, J. Am. Chem. Soc., vol. 119, p.3830 (1997). Further, synthesis of a transition metal compound containing a metal of group 4 with a ligand having a bis(borylamide) structure such as $[\text{Mes}_2\text{BNCH}_2\text{CH}_2\text{NBMes}_2]^{2-}$ and its catalytic activity for polymerization of ethylene are described in Organometallics, vol. 15, p562 (1996) and Organometallics, vol. 17, p308 (1998).

Amend the paragraph at page 2, lines 22-31, (aka [0007]) as follows:

Recently, it has been reported that a catalyst comprising a bidentate ligand-containing diimine ~~chelete-type~~ chelate-type nickel complex gives a polyolefin having a structure with many branches introduced therein, which is distinct from a structure of the conventional polyolefins produced by using a metallocene catalyst (for example, WO96/23010). Further, it has been reported that a catalyst comprising an aldimine ~~chelete-type~~ chelate-type group 4 transition metal complex exhibits greatly enhanced activity for polymerization of an olefin (for example, EP 874,005 (1998), and J. Am. Chem. Soc., vol. 123, p6847 (2001)).

Amend the paragraph at page 3, lines 19-27, (aka [0013]) as follows:

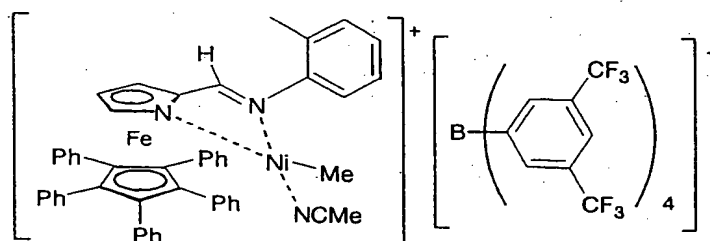
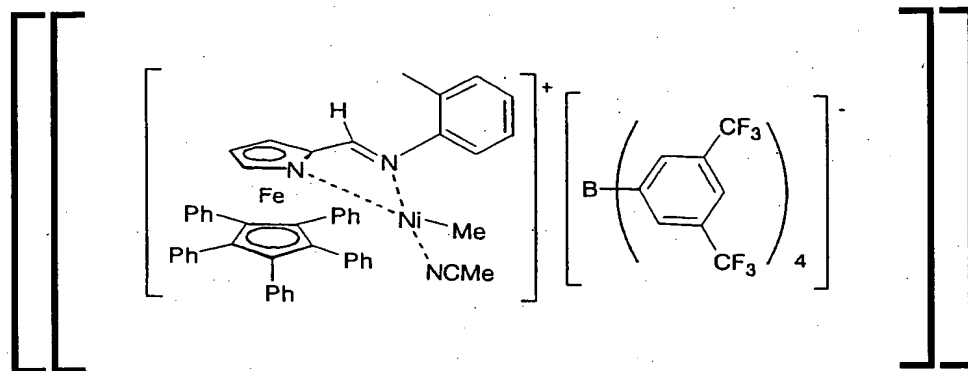
X ~~represents~~ represents a hydrogen atom, a halogen atom, a hydrocarbon group having 1 to 20 carbon atoms, a hydrocarbyloxy group having 1 to 20 carbon atoms, an amino group having one or more hydrocarbon groups each with 1 to 20 carbon atoms, a sulfonate group having an organic residue with 1 to 20 carbon atoms, or a non-coordinative anion containing an element selected from the group consisting of B, Al, P and Sb, and, when q is an integer of at least 2, Xs may be the same as or different from each other. A represents a carbon atom, a nitrogen atom or a phosphorus atom.

Amend the paragraph from page 9, line 9 to page 10, line 10 (aka [0034]) as follows:

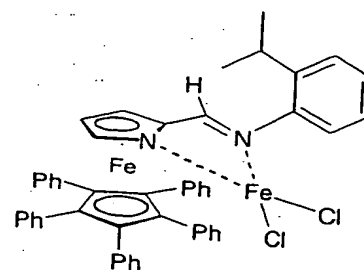
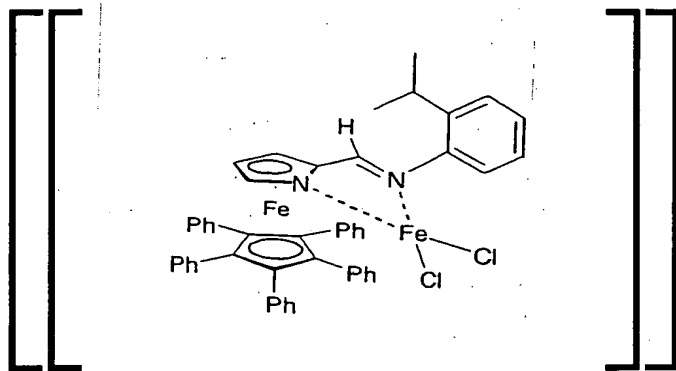
R^2 in formula (1) represents a hydrogen atom, a hydrocarbon group having 1 to 20 carbon atoms, a hydrocarbon group having 1 to 20 carbon atoms and containing at least one atom selected from halogen, silicon, nitrogen, oxygen and sulfur atoms, or a ferrocenyl group or a substituted ferrocenyl group. Of these, a hydrocarbon group having 1 to 20 carbon atoms and a hydrocarbon group having 1 to 20 carbon atoms and containing at least one atom selected from halogen, silicon, nitrogen, oxygen and sulfur atoms are preferable. As specific examples of the hydrocarbon group having 1 to 20 carbon atoms in R^2 , there can be mentioned methyl, ethyl, propyl, isopropyl, tert.-butyl, benzyl, phenyl, 2-methylphenyl, 2,6-dimethylphenyl, 2-isopropylphenyl, 2,6-diisopropylphenyl, 2-tert.butylphenyl, mesityl, 2-biphenyl, naphthyl and adamantyl groups. Of these, 2-methylphenyl, 2-isopropylphenyl, 2-tert.butylphenyl and 2-biphenyl groups are preferable. As specific examples of the hydrocarbon group having 1 to 20 carbon atoms and containing at least one atom selected from halogen, silicon, nitrogen, oxygen and sulfur atoms, there can be mentioned 2-(trifluoromethyl)phenyl, 2-(trichloromethyl)phenyl, 2-methyl-4-chlorophenyl, 2-(trimethylsilyl)phenyl, 2,6-di(trimethylsilyl)phenyl, 2-(dimethylaminomethyl)phenyl, 2-

(diphenylaminomethyl)phenyl, 2-(methoxymethyl)phenyl, 2-(phenoxymethyl)phenyl, 2-(methylthiomethyl)phenyl, 2-(phenylthiomethyl)phenyl, 2-pyridyl, 2-quinolyl, 2-(3-benzyloxypyridyl), 5-(1,3-dimethylpyrazolyl), 2-(methylthio)-5-(trifluoromethyl)phenyl and 2-(1H-pyrrol-1-yl)phenyl groups. Of these, (trifluoromethyl)phenyl, 2-(trichloromethyl)phenyl, 2-methyl-4-chlorophenyl, 2-(trimethylsilyl)phenyl, 2-(diphenylaminomethyl)phenyl and 2-(methoxymethyl)phenyl groups are preferable. As specific examples of the substituted ferrocenyl group, there can be mentioned a methylferrocenyl group, a dimethylferrocenyl group, a tert.-butylferrocenyl group and a ferrocenyl group having a ~~tetramethyl-cyclopentadienyl~~ tetramethylcyclopentadienyl (hereinafter abbreviated to Cp* when appropriate) group. R¹ and R² in formula (1) may form together a ring.

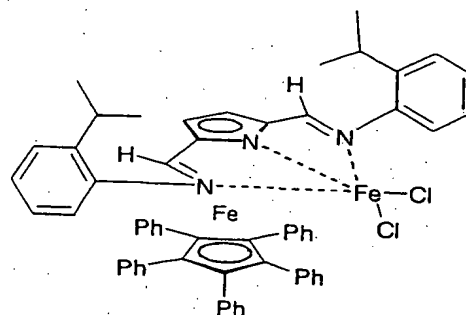
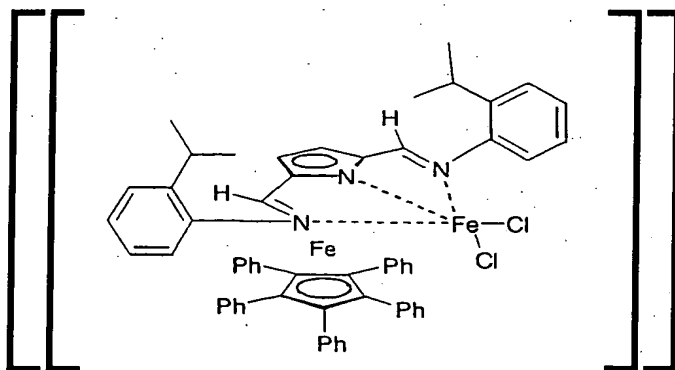
Amend the fourth chemical structure, left column, page 19 (aka third structure, right column, page 10 of 2002/0120160) as follows:



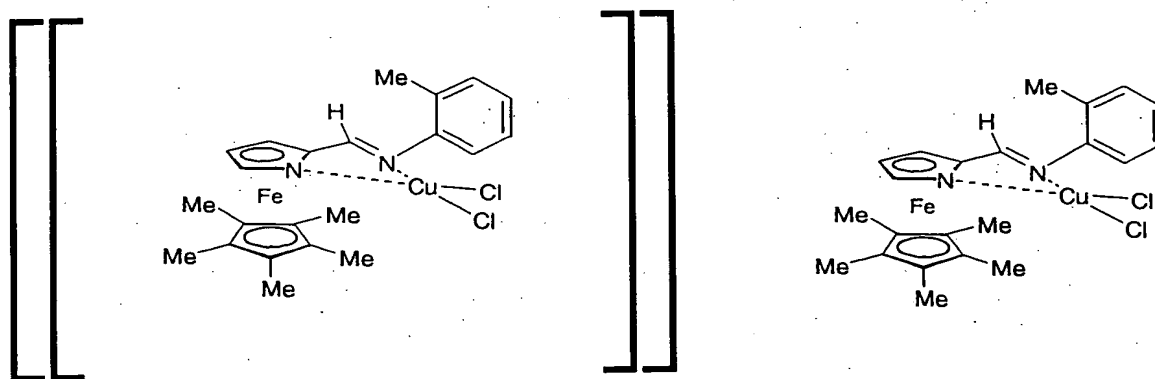
Amend the fourth chemical structure, right column, page 19 (aka second structure, left column, page 11 of 2002/0120160) as follows:



Amend the first chemical structure, left column, page 20 (aka third structure, left column, page 11 of 2002/0120160) as follows:



Amend the first chemical structure, right column, page 20 (aka fourth structure, left column, page 11 of 2002/0120160) as follows:



Amend the paragraph at page 38, lines 4-7, (aka [0059]) as follows:

The azaferrocene compound of formula (6) according to the present invention can be synthesized by a process described in ~~G. C. Fu~~ G. C. Fu et al, J. Org. Chem., vol. 61, p7230 (1996) or K. K. Joshi et al, J. Organomet. Chem., I, p471 (1964).

Amend the paragraph from page 38, line 8 to page 39, line 13 (aka [0060]) as follows:

The coordinative compound of formula (5) according to the present invention can be synthesized from the azaferrocene compound of formula (6). For example, the azaferrocene compound of formula (6) is lithiated with a lithiating agent such as n-butyllithium, and then the obtained organolithium compound is allowed to react with, for example, ~~N,N-~~
~~dimethylformamide~~ N,N-dimethylformamide, benzonitrile or acetonitrile to introduce a carbonyl-containing group such as a formyl group or an acetyl group. The lithiation of the

azaferrocene compound can be effected, for example, by a process described in V. N. Setkina et al, J. Organomet. Chem., vol. 251, C-p41 (1983). If the lithiation is carried out in the presence of a chiral diamine such as (-)-sparteine, then an azaferrocene compound predominantly comprised of one of the enantiomers, i.e., an optically active azaferrocene compound can be synthesized. The introduction of a carbonyl group-containing group can also be carried out by a Friedel-Crafts acylation using an acid chloride and aluminum chloride. The coordinative compound of formula (5) according to the present invention can also be synthesized by a process wherein the compound having introduced therein a carbonyl-containing group is subjected to dehydro-condensation with an aromatic amine or an aliphatic amine to be thereby converted to an imine. The imine-formation can be carried out by using acetic acid as a catalyst in ethanol or by using p-toluenesulfonic acid as a catalyst in toluene.

Amend the paragraph at page 42, lines 4-21, (aka [0069]-[0070]) as follows:

As preferable examples of the ionized ionic compounds having a non-coordinative anion as the activating cocatalyst, there can be mentioned protonic acids represented by the following general formula (9), ionized ionic compounds represented by the following general formula (10), Lewis acids represented by the following general formula (11), Lewis acidic compounds represented by the following general formula (12), and compounds having a structure of AgSbF_6 or AgPF_6 .



wherein H is a ~~proton~~ proton, B is a boron atom or an aluminum atom, L¹ is a Lewis base, L² is a Lewis base or a cyclopentadienyl group, A is a cation of metal selected from lithium, iron and silver, D is a carbonium cation or a tropylium cation, Ar is a halogen-substituted aryl group having 6 to 20 carbon atoms, and u is an integer in the range of 0 to 2.

Amend the paragraph from page 50, line 24 to page 51, line 1 (aka [0103]) as follows:

In the working examples, transition metal compounds were synthesized by using a Schlenk technique or dry box, and all operations were carried out in an argon or nitrogen atmosphere. The solvents used for the preparation of the transition metal compounds were subjected to deoxygen treatment and dehydration treatment by the conventional procedure prior to the use thereof. The polymerization reaction was carried out by using ~~a 1-liter~~ an autoclave at a predetermined temperature for a predetermined time while ethylene gas was continuously fed therein. The polymerization mediums used for polymerization were subjected to deoxygen treatment and dehydration treatment by the conventional procedure prior to the use for polymerization. As the ethylene gas, that of polymerization grade was used.

Amend the paragraph at page 51, lines 7-17, (aka [0105]) as follows:

The atmosphere within a 50 ml ~~Schlenk~~ Schlenk flask was replaced with nitrogen, and, 625 mg (2.58 mmol) of 1,2-diformylferrocene was dissolved in 8 ml of ethanol in the flask. Then 493 mg (5.29 mmol) of aniline was added to the obtained solution, and the mixture was stirred at room temperature overnight to conduct a reaction. After completion of the reaction, the reaction mixture was distilled under a reduced pressure to remove ethanol. To the obtained solid residue, 20 ml of cyclohexane was added to carry out recrystallization.

The precipitated crystal was filtered and dried under a reduced pressure to give 620 mg (1.58 mmol) of a deep red solid. The yield was 61%.

Amend the paragraph at page 51, lines 32-35, (aka [0108]) as follows:

$^1\text{H-NMR}$ (400MHz, CD_2Cl_2) δ = 0.14(s s, 3H), 4.39(s, 5H), 5.12(brs, 1H), 5.22(brs, 2H), 7.10-7.55(m m, 6H), 7.65-7.83(m, 4H), 8.56(s, 1H), 8.59(s, 1H)

MS ~~m/z~~ m/z 549(M^+)

Amend the paragraph at page 52, lines 18-21, (aka [0110]) as follows:

$^1\text{H-NMR}$ (400MHz, CD_2Cl_2) δ = 0.33(s, 3H), 1.95(s s, 3H), 4.47(s, 5H), 5.28(brs, 1H), 5.37(brs, 1H), 5.45(brs, 1H), 7.42-7.75(m, 10H), 8.60(s, 1H), 8.73(s, 1H)

MS ~~m/z~~ m/z 790(M^+)

Amend the paragraph at page 53, lines 1-15, (aka [0111]) as follows:

The atmosphere within a 50 ml Schlenk flask was replaced with nitrogen, and, 90 mg (0.163 mmol) of complex A-1, prepared in Example 1, and 165 mg (0.187 mmol) of ~~sodium tetrakis[3,5-bis(trifluoromethyl)phenyl]borate~~ sodium tetrakis[3,5-bis(trifluoromethyl)phenyl]borate were placed therein. The content was cooled to -50°C , and a solution of 0.09 ml of acetonitrile in 5 ml of dichloromethane was dropwise added. The temperature was elevated to -10°C over a period of 4 hours, and the obtained slurry was filtered and then extracted with dichloromethane. The combined dichloromethane solutions were concentrated under a reduced pressure. The obtained solid residue was dissolved in 3 ml of diethyl ether, and then 4 ml of pentane was dropwise added. A clear supernatant liquid was removed, and the obtained residue was dried under a reduced

pressure to give 135 mg (0.095 mmol) of a deep red solid (complex A-3). The yield was 58%.

Amend the paragraph at page 53, lines 16-19, (aka [0112]) as follows:

~~¹H-NMR~~ ¹H-NMR (400MHz, CD₂Cl₂) δ = 0.34(s, 3H), 1.90(s, 3H), 4.47(s, 5H), 5.25(s, 1H), 5.49(s, 1H), 5.64(s, 1H), 7.40-7.67(m, 10H), 7.58(s, 4H), 7.73(s, 8H), 8.58(s, 1H), 8.69(s, 1H)

MS m/z 1418(M⁺)

Amend the paragraph at page 54, lines 25-27, (aka [0117]) as follows:

¹H-NMR (400MHz, C₆D₆) δ = 1.30(s, 18H), 4.12(t, J = 2.2Hz, 4H), 4.64(~~d~~ t, J = 2.2Hz, 4H), 8.05(s, 2H)

MS m/z 352(M⁺)

Amend the paragraph at page 55, lines 10-12, (aka [0119]) as follows:

~~¹H-NMR~~ ¹H-NMR (400MHz, CD₂Cl₂) δ = 0.55(s, 3H), 1.72(s, 18H), 4.55(brs, 4H), 4.82(brs, 2H), 6.02(brs, 2H), 8.15(s, 1H), 8.70(brs, 1H)

Amend the paragraph from page 55, line 29 to page 56, line 4 (aka [0121]) as follows:

¹H-NMR (400MHz, C₆D₆) δ = 2.20(s, 12H), 4.23(~~t, J =~~ t, J = 2.2Hz, 4H), 4.70(t, J = 2.2Hz, 4H), 6.96(t, J = 7.8Hz, 2H), 7.05(d, J=7.8Hz, 4H), 7.70(s, 2H)

MS m/z 448(M⁺)

[Synthesis of Complex ~~B-2~~ B-2]

Amend the paragraph at page 57, lines 16-27, (aka [0126]) as follows:

100 ~~liter~~ milli-liter glass autoclave was charged with 50 ml of toluene, and 33.4 mg (0.055 mmol) of complex A-4 prepared in Example 4. Ethylene was blown therein to a pressure of 10 kg/cm²G. Then 4 ml of a solution containing 2.9% by weight (0.16 mmol) of tris(pentafluorophenyl)borane in Isopar-E (available from Tosoh Akzo K.K.) and 0.07 ml of a solution containing 20% by weight (0.17 mmol) of trimethylaluminum in toluene were added, and polymerization was carried out at room temperature for 2 hour while ethylene was continuously fed therein at a rate such that the pressure of 10 kg/cm²G was maintained. The thus-obtained reaction liquid was treated by the ordinary procedure to obtain 1.1 g of a liquid polymer.

Amend the paragraph at page 58, lines 30-32, (aka [0131]) as follows:

¹H-NMR (CDCl₃) revealed that the content of methyl acrylate units in the copolymer was 50% 50% by weight. GPC revealed that the copolymer had a Mw of 1.0×10^3 and a Mw/Mn ratio of 1.9.

Amend the paragraph at page 59, lines 9-11, (aka [0133]) as follows:

By the method described in J. Org. Chem., vol. 61, p7230 (1996), ~~1',2',3',4',5'-pentamethylazaferrocene~~ 1',2',3',4',5'-pentamethylazaferrocene was synthesized.

Amend the paragraph at page 59, lines 12-26, (aka [0134]) as follows:

The atmosphere within a 50 ml Schlenk flask was replaced with nitrogen, and, 404 mg (1.57 mmol) of ~~1',2',3',4',5'-pentamethylazaferrocene~~ 1',2',3',4',5'-

pentamethylazaferrocene was dissolved in 7 ml of diethyl ether in the flask. Then 740 mg (3.10 mmol) of (-)-sparteine was added to the obtained solution, and then 2 ml (3.2 mmol) of 1.59 M n-BuLi solution in hexane was dropwise added under ice-cooled conditions. The content was stirred for 1 hour under ice-cooled conditions, and then 240 mg (3.3 mmol) of N,N-dimethylformamide was added. When 20 minutes elapsed, water was added to quench the reaction mixture. The reaction mixture was extracted with diethyl ~~ether~~ ether, and then, the organic phase was concentrated under a reduced pressure and the obtained residue was purified by silica gel column chromatography (solvent: hexane/ethyl acetate). Thus 350 mg (1.22 mmol) of a deep red liquid was obtained. The yield was 78%.

Amend the paragraph at page 59, lines 27-28, (aka [0135]) as follows:

$^1\text{H-NMR}$ (400MHz, C_6D_6) δ = ~~1.59~~ 1.59(s, 15H), 3.99(s, 1H), 4.63(s, 1H), 4.99(s s, 1H), 10.1(s, 1H)

Amend the paragraph at page 60, lines 17-19, (aka [0139]) as follows:

$^1\text{H-NMR}$ (400MHz, CD_2Cl_2) δ = ~~-8.15~~ -8.15 (s, 1H), -7.70(s, 1H), -1.80(s, 1H), 1.48(s, 15H), 1.80(s, 3H), 16.50(s, 1H), 22.85(s, 1H), 23.30(s, 1H), 34.10(s, 2H)
FAB-MASS: m/z 593(M^+), 513($\text{M}^+ - \text{Br}$), 433($\text{M}^+ - 2\text{Br}$), 374($\text{M}^+ - \text{NiBr}_2$)

Amend the paragraph at page 62, lines 3-22, (aka [0144]) as follows:

The atmosphere within a 100 ml Schlenk flask was replaced with nitrogen, and, 255 mg (2.01 mmol) of iron(II) chloride and 10 ml of THF were placed therein. The atmosphere within a 50 ml Schlenk flask was replaced with nitrogen, and, 785 mg (1.75 mmol) of pentaphenylcyclopentadiene and 20 ml of ~~THF~~ THF were placed in therein. Then 1.24 ml of

a 1.56M (1.93 mmol) n-BuLi solution in hexane was dropwise added at room temperature into the 50 ml flask, followed by stirring for 5 minutes. The thus-obtained solution was introduced in the slurry of iron(II) chloride in THF by using a cannula. Then a solution of 216 mg (2.05 mmol) of potassium pyrrolide in 10 ml of THF was introduced by using a cannula. The mixture was stirred at room temperature for 2 hours to effect a reaction, and then 15 ml of water was added to quench the reaction liquid. The reaction liquid was extracted with 25 ml of dichloromethane and the obtained organic phase was concentrated under a reduced pressure. The residue was purified by a silica gel column chromatography (solvent: dichloromethane, ethyl acetate) to give 868 mg (1.53 mmol) of an orange solid (1',2',3',4',5'-pentaphenyl-azaferrocene). The yield was 87%.

Amend the paragraph from page 62, line 26 to page 63, line 4 (aka [0146]) as follows:

The atmosphere within a 50 ml Schlenk flask was replaced with nitrogen, and, 985 mg (1.73 mmol) of ~~1',2',3',4',5'-pentaphenylazaferrocene~~ 1',2',3',4',5'-pentaphenylazaferrocene was dissolved in 21 ml of ~~THF~~ THF in the flask. The solution was cooled to -50°C and 2.35 ml of a 1.59M (3.74 mmol) n-BuLi solution ~~in~~ in hexane was dropwise added. Then the mixture was stirred at -50°C for 3 hours and then 284 mg (3.89 mmol) of N,N-dimethylformamide was added. A reaction was carried out for 40 minutes while the temperature was gradually elevated, and then water was added to quench the reaction liquid. The reaction liquid was extracted with ether and the obtained organic phase was concentrated under a reduced pressure. The residue was purified by a silica gel column chromatography (solvent: hexane/dichloromethane, ethyl acetate) to give 743 mg (1.25 mmol) of an orange liquid. The yield was 72%.

Amend the paragraph at page 63, lines 5-14, (aka [0147]) as follows:

The atmosphere within a 50 ml Schlenk flask was replaced with nitrogen, and, 92 mg (0.15 mmol) of the ~~2-formylazaazaferrocene~~ 2-formylazaferrocene prepared by the above-mentioned procedures and 4 ml of ethanol were placed therein. Then 25 mg (0.23 mmol) of o-toluidine and 5 mg of acetic acid were added. A reaction was effected at room temperature for one day, and then, the reaction liquid was concentrated under a reduced pressure. The residue was washed with hexane and dried under a reduced pressure to give 76 mg (0.11 mmol) of a red solid (coordinative compound). The yield was 73%.

Amend the paragraph at page 63, lines 19-30, (aka [0149]) as follows:

The atmosphere within a 50 ml Schlenk flask was replaced with nitrogen, and, the flask was charged with 20 mg (0.065 mmol) of (DME)NiBr₂ and 2 ml of ~~dichloromethane~~ dichloromethane. With stirring, a solution of 40 mg (0.058 mmol) of the coordinative compound, prepared by the above-mentioned procedures, in 3 ml of dichloromethane, was added by using a cannula. The mixture was stirred at room temperature for 3 hours, and the reaction liquid was filtered and then, extracted with dichloromethane. The combined dichloromethane solutions were concentrated under a reduced pressure. The residue was washed with hexane, and then dried under a reduced pressure to give 44 mg (0.048 mmol) of a reddish brown solid (complex C-4). The yield was 83%.

Amend the paragraph at page 64, lines 15-18, (aka [0152]) as follows:

~~¹H-NMR~~ ¹H-NMR (400MHz, C₆D₆) δ = 1.16(d, J=6.4Hz, 3H), 1.31(d, J=6.4Hz, 3H), 3.65-3.78(s ~~m~~, 1H), 4.46(s, 1H), 5.47(s, 1H), 5.55(s, 1H), 6.01(d, J=7.0Hz, 1H), 6.78-7.04(m, 18H), 7.40(d, J=6.2Hz, 10H), 8.49(s, 1H)

Amend the paragraph at page 64, line 20 to page 65, line 1 (aka [0153]) as follows:

The atmosphere within a 50 ml Schlenk flask was replaced with nitrogen, and, the flask was charged with 56 mg (0.18 mmol) of (DME)NiBr₂ and 2 ml of ~~dichloromethane~~ dichloromethane. With stirring, a solution of 129 mg (0.18 mmol) of the coordinative compound, prepared by the above-mentioned procedures, in 6 ml of dichloromethane, was added by using a cannula. The mixture was stirred at room temperature for 3 hours, and the reaction liquid was concentrated under a reduced pressure. The residue was washed with a minor amount of dichloromethane, and dried under a reduced pressure to give 160 mg (0.17 mmol) of a red solid (complex C-5). The yield was 95%.

Amend the paragraph at page 65, lines 7-16, (aka [0154]) as follows:

The atmosphere within a 50 ml Schlenk flask was replaced with nitrogen, and, 132 mg (0.22 mmol) of 1',2',3',4',5'-pentaphenyl-2-formylazaferrocene was dissolved in 6 ml of ethanol in the flask. Then 49 mg (0.29 mmol) of 2-aminobiphenyl and 5 mg of acetic acid were added. The mixture was stirred at room temperature for 2 days, and then, the reaction liquid was concentrated under a reduced pressure. The residue was washed with a minor amount of ethanol, and dried under a reduced pressure to give 122 mg (0.16 mmol) of a red solid (coordinative compound). The yield ~~was~~ was 74%.

Amend the paragraph at page 65, lines 17-19, (aka [0155]) as follows:

¹H-NMR (400MHz, C₆D₆) δ = 4.39(s, 1H), 5.29(s, 1H), 5.51(s, 1H), 6.99(d, J=7.6Hz, 1H), 6.80-7.10(m, 18H), 7.12-7.20(m, 3H), 7.36(d, ~~J=7.0Hz~~ J=7.0Hz, 10H), 7.51(d, J=7.0Hz, 2H), 8.53(s, 1H)

Amend the paragraph at page 65, line 21 to page 66, line 2 (aka [0156]) as follows:

The atmosphere within a 50 ml Schlenk flask was replaced with nitrogen, and, the flask was charged with 40 mg (0.13 mmol) of (DME)NiBr₂ and 2 ml of ~~dichloromethane~~ dichloromethane. With stirring, a solution of 105 mg (0.14 mmol) of the coordinative compound, prepared by the above-mentioned procedures, in 5 ml of dichloromethane, was added by using a cannula. The mixture was stirred at room temperature for 3 hours, and the reaction liquid was concentrated under a reduced pressure. The residue was washed with hexane, and dried under a reduced pressure to give 110 mg (0.11 mmol) of a red solid (complex C-6). The yield was 85%.

Amend the paragraph at page 66, line 3 (aka [0157]) as follows:

FAB-MASS: m/z 885 ~~885~~(M⁺-Br), 805(M⁺-2Br), 747(M⁺-NiBr₂)

Amend the paragraph at page 66, lines 10-16, (aka [0159]) as follows:

The procedures for synthesizing the precursor compound described in Example 15 were repeated wherein 1',2',3',4',5'-penta(p-fluorophenyl)cyclopentadiene was used instead of ~~1',2',3',4',5'-pentaphenylcyclopentadiene~~ 1',2',3',4',5'-pentaphenylcyclopentadiene with all other conditions remaining the same. Thus an orange-colored solid, 1',2',3',4',5'-penta(p-fluorophenyl)azaferrocene was obtained in a yield of 47%.

Amend the paragraph at page 68, lines 15-20, (aka [0167]) as follows:

The atmosphere within a 100 ml of Schlenk flask was replaced with nitrogen, and the flask was charged with 52 mg (~~0.056~~ 0.056 mmol) of complex C-5 synthesized in Example 16, and 60 ml of toluene. The content was stirred for 20 minutes to prepare a complex solution.

Amend the paragraph at page 69, lines 6-7, (aka [0169])as follows:

^1H -NMR (CDCl_3) revealed that the content of methyl acrylate units in the copolymer was ~~7%~~ 7% by weight.

Amend the paragraph at page 69, line 26 to page 70, line 11 (aka [0172]) as follows:

The atmosphere within a 50 ml Schlenk flask was replaced with nitrogen, and, 71 mg (0.082 mmol) of the transition metal compound synthesized in Example 26 and 29 mg (0.085 mmol) of ~~AgSbF_6~~ AgSbF_6 were placed therein. The mixture was cooled to -50°C and 8 ml of diethyl ether was added. A cooling bath was removed, and the mixture was stirred at room temperature for 1 hour. The reaction liquid was filtered, and the residue was extracted with 16 ml of a dichloromethane/diethyl ether (1:1) mixed solution. The extract was combined with the above-mentioned filtrate. The combined liquid ~~was~~ was concentrated to 10 ml under a reduced pressure. Then 20 ml of hexane was added to precipitate a solid. A supernatant was removed, and the obtained solid was dried to give 76 mg of a reddish-brown sold (complex C-8). The yield was 81%.

Amend the paragraph at page 70, lines 12-15, (aka [0173]) as follows:

^1H -NMR (400MHz, CD_3CN) δ = 1.13(t, $J=7.0\text{Hz}$, 6H), 1.20(s, 1.5H), 1.22(s, 1.5H), 2.04-2.30(brs), 3.43(q, $J=7.0\text{Hz}$, 4H), 5.72(d, $J=1.5\text{Hz}$, 1H), 5.81(d, $J=2.5\text{Hz}$, 1H), 6.08(s, 1H), 6.26(d, $J=7.7\text{Hz}$, 1H), 7.00-7.37(m, 28H), 8.80(s s, 1H)

Amend the chemical structure, page 70 (aka second structure, right column, page 38
of 2002/0120160) as follows:

